

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, FLORIDA

JUSTIFICATION FOR OTHER THAN FULL AND OPEN COMPETITION

(BRAND NAME DETERMINATION)

ESTIMATED ITEM VALUE: \$65,000

ESTIMATED TOTAL VALUE OF PROCUREMENT: \$65,000

- 1.) Based on the justification provided herein, I recommend that an acquisition be made by other than full and open competition for the contract action described below:
- 2.) This contract action includes the acquisition and extension of the existing Environmental Control System (ECS) instrumentation and control infrastructure at Pad B. This existing architecture is built using Rockwell Automation Allen-Bradley's ControlNET bus and associated products. To ensure full compatibility with the existing Ground Support Development & Operations (GSDO) Kennedy Ground Control System (KGCS) infrastructure it is in the Government's best interest to continue with the installation of Allen-Bradley ControlNET and associated products when expanding the existing system and testing the overall ECS modifications.

The categories of items required include but are not limited to Allen-Bradley Industrial Controls and Connection Systems consisting of; Wiring Systems; Programmable Controllers; Software; Chassis-based and Distributed Input/Output; and Power Supplies.

- 3.) The refurbishment of the ECS reutilizes a majority of the existing control hardware installed under the modifications to the ECS system in support of the previous Constellation Program. The existing control system (GSDO KGCS) that this contract will expand is a follow-on effort to the Space Shuttle Program Integrated Network Control System (INCS) leveraging on the proven design and implementation of INCS to minimize safety risks, cost, and schedule impacts. NASA previously tested and evaluated multiple manufacturers prior to the installation of the existing control system including Rockwell Automation Allen-Bradley, Modicon, and Omron systems in accordance with the INCS System Level Specification (SLS). The specification for the Command and Control Bus (CCB) required a system that is both deterministic and redundant. "Deterministic" means that the system will provide data and accept commands on a schedule that is repeatable and does not vary in time or duration. "Redundant" means that the system provides data and accepts commands on dual paths simultaneously. This requirement was only met by the Allen-Bradley ControlNET bus and associated products. Therefore, based on overall performance and the CCB requirement,

Allen-Bradley was the only manufacturer to fully support the ControlNET protocol in full redundant mode.

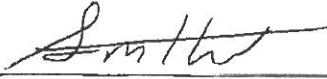
Based upon the previous market research conducted and the work associated under the subject contract only expanding upon the existing architecture, the Government will procure Allen-Bradley parts for the ECS refurbishment.

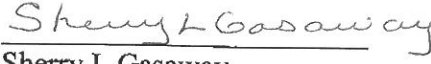
- 4.) Contracting without full and open competition is permitted pursuant to 10 U.S.C. 2304 (c) (1) because the equipment required by KSC is available from one responsible manufacturer and no other type of equipment will fully satisfy our requirements. There is a reasonable basis to conclude that KSC's ECS / KGCS minimum requirements can only be satisfied by the unique equipment available from Allen-Bradley. The Allen-Bradley ControlNET hardware represents the only device capable of full compatibility with the existing KGCS at KSC.
- 5.) Efforts will be made to ensure that offers are solicited from as many potential sources as practicable. The project specifications for the Allen-Bradley components, written to fully explain the government's requirements regarding Programmable Logic Controllers (PLC) that interface with the KGCS, will be included in the solicitation specifications. Additionally, this Brand Name Determination will be posted with the solicitation on the Federal Business Opportunities website at www.fbo.gov.
- 6.) It is determined that the price of the prime contract, including the price of the Allen-Bradley components, will be fair and reasonable. The overall competitive nature of this low price technically acceptable procurement will entice bidders to seek the most advantageous pricing from Allen-Bradley authorized distributors and supply houses as well as reasonable pricing from all other equipment and material suppliers.
- 7.) The existing KGCS to be expanded requires a redundant communication path that, upon failure detection, can perform a seamless switchover. The redundant path eliminates a single point failure that can cause a process to remain in a hazardous and critical state due to loss of communication. The design team, comprising civil servant control engineers, conducted a market survey on October 10th, 2008. The market research compared specifications and software tools of PLC systems made by major manufacturers including GE Fanuc, Omron, Siemens, Modicon, and Allen-Bradley. The design team determined that the market research showed that only the Allen-Bradley products satisfy the Government's requirement for redundancy. Allen-Bradley is the only source that implements ControlNET media redundancy in hardware, within a single module, that upon failure detection of the primary media can perform a seamless switchover.
- 8.) A sources sought synopsis describing this acquisition was posted on February 20, 2014 and multiple responses were received. No comments relative to the acquisition and installation of programmable logic controllers and their

components were received. Approval to procure this acquisition as a full and open procurement was received from the Small Business Administration on March 31, 2014.

- 9.) Future actions to remove barriers to competition will include continued efforts to reach out to other manufacturers for compatible PLC systems in order to reduce the amount of equipment that must be procured on a single manufacturer basis.

Pursuant to FAR 6.303-2(c), I hereby certify that the supporting data furnished in support of contracting by other than full and open competition, under 10 U.S.C. 2304(c) (1), with Allen-Bradley of Rockwell Automation for the purchase of programmable logic controller components is complete and accurate to the best of my knowledge and belief.

 04/23/2014
Scott Hunt
LDE, Facilities Division
TA-B3B


Sherry L. Gasaway
Contracting Officer